ON A CASE OF NEPHRO-LITHOTOMY WITH SOME REMARKS ON NEPHRALGIA AND CALCULUS OF THE KIDNEY.[1]

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IN presenting the following case of nephro-lithotomy, I do not profess to tell much that is new or strange, but only desire to draw attention to some points in certain cases of kidney calculus where the diagnosis is obscure and which, unless proper precautions be taken, may be mistaken for that somewhat problematical affection, nephralgia. The chief characteristic in these cases is pain in the region of the kidneys, at times more severe than others, and extending down the course of the ureters to the testicle. There is also, owing to the small size of the stone and its situation, often no history of blood or pus in the urine and no kidney tumor. The severe character of the pain and its situation is the one thing which, in these cases, induces the surgeon to cut down upon the kidney and explore it. Now I contend that unless this be properly done, the operator may fail to find the stone, and in consequence the case will be set down as one of nephralgia. I am aware that in some instances the kidney has been removed for severe pain and no stone has been found, but in a still greater number I have no doubt that a stone has escaped observation, and hence the affection has been named nephralgia.

It has been my fortune to perform nephrotomy not a few times for calculus and other diseases. I have several times cut

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down on the kidney by the lumbar incision for severe paroxysmal pain, explored it with needle and sound, and felt it externally with the finger, and yet have failed to detect a stone or other affection. In some cases the pain has been relieved, in others it has not. The case I am now about to relate comes under the latter category. The first time the kidney was cut down upon it was thoroughly explored with sound and needle and also carefully examined with the finger, and yet nothing was found, the organ being apparently healthy in every respect. The pain was relieved for a time, but soon the paroxysms returned and were more violent than ever, the patient's existence being rendered most miserable, so that at the end of six months I was induced to cut down upon the kidney a second time, determined to remove it should a stone not be found. However, a more thorough examination of the kidney, by means of the finger introduced into its interior, enabled me to detect and remove a small round stone covered with sharp crystals. The patient made a rapid recovery and was completely relieved of his pain. Now this case shows us that it is a very difficult matter to detect a small stone by the ordinary methods (viz., needle puncture and sound exploration), and points to the fact that many of these cases called nephralgia are probably due to a small stone which may lie hidden in the kidney without producing any very serious alteration in the condition of the organ, and that when nephrotomy is performed it may escape detection even by an apparently complete exploration. In future it is my intention in such cases, when I fail to find a stone by needle puncture and exploration with the sound, to freely incise the kidney and explore with the finger. This is not possible in all cases; for example, in those where the patient is stout and the kidney deeply placed; in such I should advise that a free incision be made in the lower part of the kidney, and a good-sized pair of Péan's forceps be introduced and the stone searched for. I am sure that a stone could be more easily found by this method than by the sound. If the stone happens to be in a compartment of its own, as occasionally occurs, or hidden away in one of the calyces, then the chance of finding it with the sound is comparatively small. In the case reported below, the stone floated

freely in a cavity in the upper part of the kidney and was separated from the pelvis proper by a thin membrane which of course prevented the sound from coming in direct contact with it.

The following is the history of this interesting case reported for me by my house surgeon, Dr. C. C. Campbell:

William C., æt. 19 years, was admitted into the Montreal General Hospital June 21, 1889, suffering from severe pain in the region of the left kidney.

Nothing of interest bearing on the case in the family history.

History.—First felt a severe pain eleven years ago in the left lumbar region which lasted some six hours. Since that time the pain has appeared at irregular intervals of from a week to a month. During the last year intervals between the pains have been shorter and the pain itself more severe. The pain is paroxysmal in character, and appears to commence over the region of the left kidney, shoot down the course of the ureter to the groin and, when a very severe paroxysm occurs, is felt in the left testicle, giving the same sensation as when that organ is pinched. At the acme of a paroxysm vomiting frequently occurs. Walking, jumping and especially a false step markedly increases the severity of the pain or sets up an attack. Has never passed a calculus, nor has there ever been pus or blood in the urine.

On November 8, 1888, he entered hospital and Dr. Shepherd cut down on the kidney and explored by needle puncture and the introduction of a small sound into the pelvis, but no calculus was found. The kidney in appearance was perfectly normal. Patient made a good recovery from the operation, no urine passing by the wound after the first 24 hours. During his convalescence he had several mild attacks of pain. One month after his discharge from hospital, the pain returned with increased severity until latterly he became a burthen to himself and friends. Immediately before entering hospital he had a very severe attack of pain which lasted eleven days.

Present condition.—Patient is a poorly nourished lad of medium size with an anxious expression of countenance. He walks bent up like an old man. The cicatrix of the last operation is seen immediately below and parallel to the last rib. Pressure over this spot causes slight pain, but a quick blow causes a very severe pain which shoots down to the left testicle. No tumor can be made out in this region. No blood or pus in the urine. Urine acid, sp. gr. 1015, contains no albumen and is of a clear straw color. Amount voided in 24 hours, 31 ounces.

Without going further into details, I may say that the kidney was cut down upon for the second time on June 26, 1889. The incision was through the old scar and the kidney was soon reached and explored carefully with sound introduced into the pelvis, with finger and thumb, and by needle puncture. The kidney was perfectly normal in appearance and the scar of first operation could not be seen. No stone was found, so I made a free incision into the lower part of the cortical portion and introduced my finger into the pelvis. I soon felt a small stone at the extreme upper end which was separated from my finger by a thin membrane; this was scratched through and the stone extracted. The stone was about the size of a small marble, consisted of uric acid and was covered by sharp crystals; it weighed 24 grains. The stone apparently floated freely in a cavity at the upper end of the kidney; whilst withdrawing the stone another small one, weighing 2 grains, was extracted. The bleeding from the incision in the kidney was very free, but was easily controlled by pressure; a drainage tube was placed in the kidney, the wound sutured and dressed with a jute pad. During the operation the wound was irrigated with boiled water; no antiseptics were used. The patient recovered well from the operation and passed 10 ounces of bloody urine the same evening. At the end of 24 hours the drainage tube was removed from the kidney—urine was coming away freely from the wound.

The patient progressed favorably, his temperature never rising above 100.4°; he passed daily per urethram from 20 to 24 ounces. Urine ceased to come from the wound on the 10th day after operation. On the 18th day (July 12) the wound was soundly healed and he was discharged from hospital. At this time the daily amount of urine passed was from 45 to 52 ounces. No pain was felt after the operation. When last seen he could run and jump without feeling the slightest pain, a thing he had not been able to do for eleven years. Sudden pressure beneath the last rib caused no pain. Patient was rapidly gaining flesh, and his countenance bore an unusually cheerful expression, very different from the aspect before operation.